

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242737

Luminaire Tested: S124RDRP-S575D830-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242737
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-S575D830-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

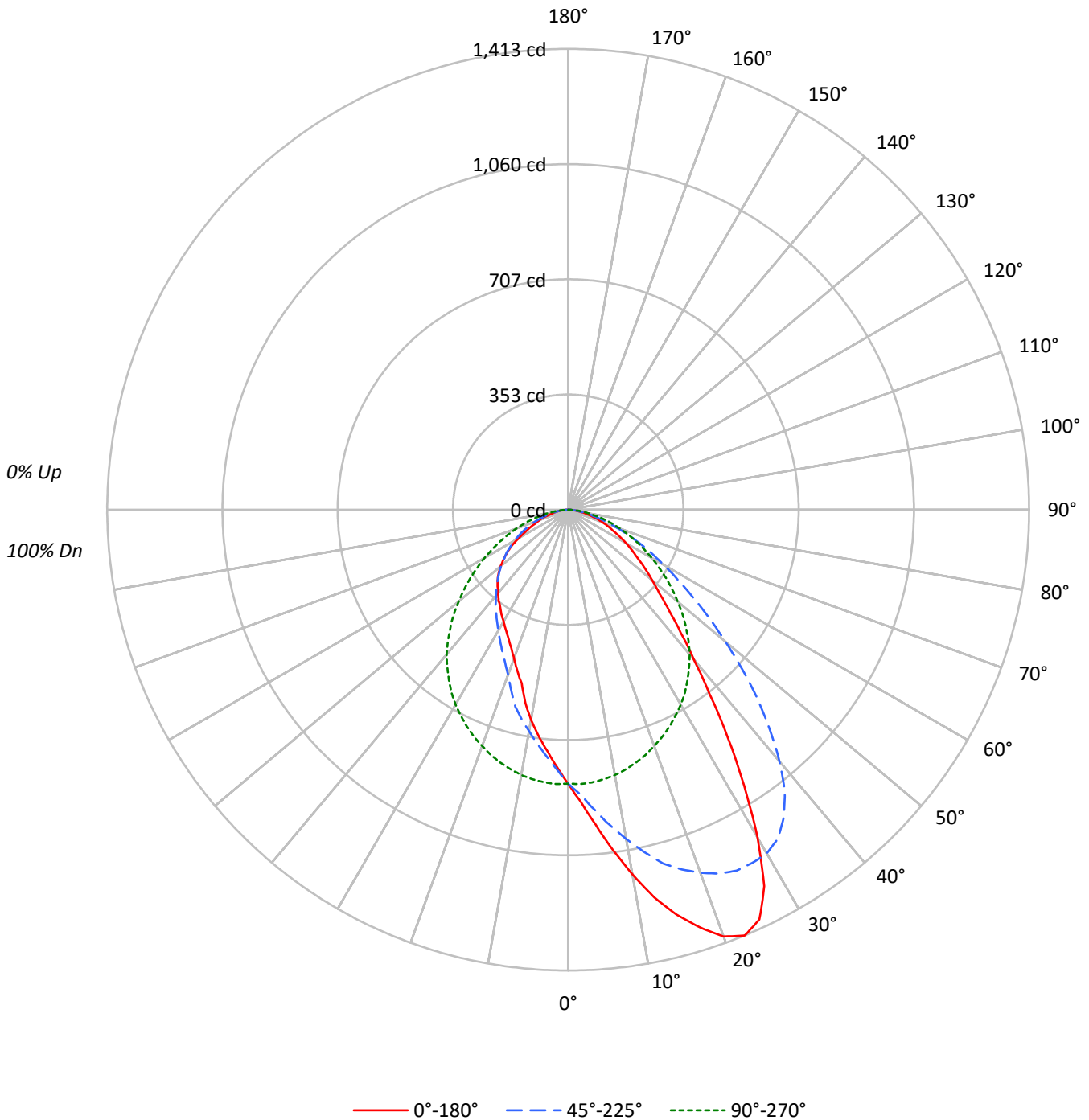
Lumens per Lamp: N/A
Luminaire Lumens: 2123.1 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76					74				
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65					63				
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57					55				
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50					48				
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45					43				
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40					38				
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36					34				
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33					31				
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30					28				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	7466	7466	7466	7466	7466
5°	8660	8243	7488	6775	6618
10°	10244	9254	7456	6228	5907
15°	11833	10333	7387	5754	5076
20°	13175	11204	7291	5089	4590
25°	13601	11974	7199	4689	4262
30°	11906	12489	7085	4394	4064
35°	9268	12495	6918	4171	3943
40°	6949	11690	6727	3993	3879
45°	5487	10316	6419	3842	3845
50°	4633	8680	6064	3710	3734
55°	4039	7195	5674	3571	3535
60°	3634	6021	5269	3369	3129
65°	3203	5018	4833	3138	2690
70°	2885	4010	4379	2833	2427
75°	2418	3115	3881	2487	2068
80°	2042	2355	3307	2063	1940
85°	1724	1866	2591	1826	1724

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 11017 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.3	3.8
10°-20°	245.6	11.6
20°-30°	384.7	18.1
30°-40°	427.2	20.1
40°-50°	378.6	17.8
50°-60°	295.0	13.9
60°-70°	193.0	9.1
70°-80°	94.7	4.5
80°-90°	23.1	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	711.6	33.5
0°-40°	1138.8	53.6
0°-60°	1812.4	85.4
0°-90°	2123.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2123.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	840	840	840	840	840	
5°	970	924	839	759	742	98
15°	1286	1123	803	625	552	366
25°	1387	1221	734	478	434	619
35°	854	1152	638	384	363	535
45°	436	821	511	306	306	344
55°	261	464	366	230	228	237
65°	152	239	230	149	128	153
75°	70	91	113	72	60	77
85°	17	18	25	18	17	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9
2.5°	897.4	900.4	897.4	897.1	893.7	892.7	891.3	886.9	878.8	874.1	875.1
5°	970.5	979.0	974.2	973.5	966.1	958.6	953.9	943.1	931.6	923.8	917.4
7.5°	1051.7	1056.8	1053.4	1049.7	1036.8	1032.8	1021.6	1008.7	989.4	974.9	961.7
10°	1134.9	1139.0	1137.7	1128.9	1120.1	1102.1	1092.0	1072.0	1046.0	1025.3	1006.0
12.5°	1216.8	1221.2	1206.7	1209.4	1190.8	1177.6	1160.0	1133.6	1102.5	1074.4	1049.0
15°	1285.9	1280.5	1280.5	1273.7	1255.1	1235.4	1218.9	1192.5	1154.6	1122.8	1089.3
17.5°	1342.7	1345.1	1342.4	1325.1	1311.6	1291.6	1261.8	1231.7	1198.9	1156.3	1123.1
20°	1392.8	1392.8	1389.8	1378.9	1360.0	1338.3	1305.5	1272.0	1227.3	1184.4	1145.8
22.5°	1413.1	1414.5	1410.7	1402.3	1385.7	1364.7	1338.0	1303.8	1257.4	1207.7	1157.6
25°	1386.7	1393.1	1393.8	1391.4	1386.4	1373.5	1349.5	1314.6	1273.3	1220.9	1169.5
27.5°	1301.4	1309.9	1313.3	1320.7	1334.6	1339.7	1336.6	1313.3	1273.3	1221.6	1170.5
30°	1160.0	1166.8	1188.8	1217.5	1239.8	1260.2	1277.7	1282.5	1262.2	1216.8	1162.4
32.5°	1003.0	1012.8	1034.8	1066.3	1107.2	1145.1	1190.1	1214.1	1218.5	1195.9	1146.5
35°	854.1	860.9	881.2	913.6	958.3	1009.4	1072.0	1120.7	1153.9	1151.5	1120.7
37.5°	711.3	720.8	741.4	768.1	812.1	877.4	936.7	1002.0	1061.5	1090.6	1075.1
40°	598.9	599.3	619.2	647.0	687.6	742.8	808.7	883.2	951.5	1007.4	1018.2
42.5°	510.3	510.3	521.8	552.2	578.6	629.7	692.0	765.8	848.7	915.3	948.5
45°	436.5	439.6	450.4	468.3	491.3	535.3	585.7	654.4	744.1	820.6	868.3
47.5°	378.3	383.7	390.2	406.4	425.4	456.1	499.1	563.4	637.9	722.8	788.8
50°	335.0	335.7	344.5	352.6	368.5	391.9	428.4	479.8	546.8	627.7	703.2
52.5°	297.8	297.4	301.8	312.7	324.9	341.8	369.5	415.2	472.7	543.1	621.6
55°	260.6	262.2	266.3	274.4	284.2	297.1	320.5	355.6	402.3	464.3	535.0
57.5°	232.1	233.1	236.9	239.9	249.4	258.9	277.8	303.2	344.1	395.9	465.3
60°	204.4	204.7	205.7	210.8	217.9	226.7	238.6	259.2	292.4	338.7	390.8
62.5°	177.3	178.0	179.7	183.1	188.1	193.6	206.1	221.6	247.7	285.6	331.3
65°	152.3	152.6	155.0	156.3	160.7	166.1	175.3	186.5	205.4	238.6	274.1
67.5°	131.3	131.3	131.3	133.3	136.7	140.4	146.5	156.0	171.2	192.5	225.7
70°	111.0	111.0	111.7	112.7	114.4	117.4	120.5	127.2	137.7	154.3	178.3
72.5°	92.0	92.4	93.1	93.1	93.7	96.1	98.1	101.9	109.0	120.5	138.7
75°	70.4	71.4	73.1	74.4	76.1	75.8	78.2	80.9	83.2	90.7	101.9
77.5°	55.5	54.8	54.8	56.2	56.5	56.8	58.5	60.9	62.9	67.0	71.1
80°	39.9	39.9	40.9	41.3	40.9	41.3	43.0	44.0	44.7	46.0	49.7
82.5°	27.7	28.4	27.7	28.1	28.4	28.8	30.1	30.1	30.8	31.1	32.1
85°	16.9	17.3	17.6	16.9	16.9	16.9	17.6	17.9	18.6	18.3	18.9
87.5°	7.4	7.1	7.4	7.4	7.8	7.4	7.8	8.5	7.8	8.1	8.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9
2.5°	871.7	866.9	864.6	859.2	852.7	849.3	846.3	841.9	836.2	830.1	825.7
5°	909.2	901.1	891.0	878.8	868.0	857.5	848.3	839.2	828.7	817.9	807.1
7.5°	946.5	931.9	916.3	897.7	879.8	863.2	848.3	833.8	817.2	802.3	788.4
10°	985.7	964.1	940.0	914.7	889.3	867.3	845.6	826.0	804.3	785.1	768.8
12.5°	1017.5	991.1	961.0	927.9	896.0	868.3	842.6	815.5	790.1	768.8	745.8
15°	1053.4	1018.5	979.6	941.7	902.1	865.9	832.4	802.7	774.6	745.1	724.5
17.5°	1078.1	1037.8	991.8	947.8	902.5	860.5	822.6	788.1	756.0	726.5	702.2
20°	1099.8	1054.1	1001.6	949.9	897.4	851.7	810.1	770.8	737.3	704.9	679.5
22.5°	1111.9	1060.2	1001.6	946.8	892.0	841.6	794.9	753.6	716.4	683.9	655.1
25°	1112.6	1058.5	999.9	937.7	878.1	825.7	778.3	734.0	693.4	660.9	631.1
27.5°	1109.9	1047.3	988.4	925.1	863.9	808.1	759.0	712.0	671.7	637.2	606.7
30°	1101.8	1033.4	969.1	902.8	840.6	787.4	735.0	690.3	648.0	611.8	581.0
32.5°	1084.2	1016.5	946.1	877.8	814.5	759.3	710.3	665.3	624.0	586.8	553.6
35°	1059.8	991.1	916.0	846.3	784.4	727.5	680.8	637.5	597.9	558.3	523.8
37.5°	1031.7	960.0	885.9	809.4	747.8	693.7	650.0	608.4	569.8	533.6	495.4
40°	988.4	924.5	847.3	771.5	707.9	656.1	616.5	579.7	540.7	504.9	466.6
42.5°	936.0	883.9	805.7	729.6	667.0	617.6	581.3	545.5	511.0	476.4	436.2
45°	876.4	835.1	762.0	689.0	625.7	576.3	542.4	510.6	479.5	446.3	408.8
47.5°	810.1	779.6	716.0	639.5	580.3	535.0	502.5	476.1	448.7	415.2	381.4
50°	740.4	722.5	661.5	593.2	537.4	496.4	462.9	438.5	416.6	384.7	355.3
52.5°	665.9	658.5	609.4	544.8	491.3	451.4	424.0	402.7	380.3	355.3	328.2
55°	590.1	595.2	551.6	495.1	444.3	410.5	384.4	366.1	347.2	324.9	303.5
57.5°	511.3	530.6	498.1	447.0	397.9	366.1	346.2	329.9	314.0	295.1	275.8
60°	441.9	457.5	440.9	397.3	355.6	326.5	308.3	296.4	280.5	263.6	249.7
62.5°	374.3	391.2	383.1	349.9	312.0	288.0	272.4	261.6	250.7	236.5	222.0
65°	319.8	330.6	325.9	301.5	274.1	252.8	237.9	229.8	218.9	208.1	195.2
67.5°	255.8	277.1	273.8	260.2	233.8	216.9	206.4	199.0	188.8	180.7	171.6
70°	201.3	220.6	220.3	209.8	196.9	181.4	174.6	168.5	159.7	151.9	144.8
72.5°	155.7	172.9	176.3	168.9	161.1	150.2	143.8	140.1	131.6	126.9	121.5
75°	115.4	128.2	131.6	131.6	127.6	121.5	115.7	113.0	106.9	102.2	98.8
77.5°	81.2	90.0	95.1	96.1	96.4	94.1	88.7	86.6	81.9	80.2	76.5
80°	53.5	58.9	65.0	67.0	68.7	68.0	66.0	64.6	60.2	58.5	57.2
82.5°	32.8	35.2	39.9	45.0	44.0	46.4	44.7	43.7	40.6	40.3	38.9
85°	19.3	19.6	20.3	23.3	25.0	25.7	26.1	25.4	24.4	24.4	22.0
87.5°	8.1	7.8	8.5	8.5	8.8	10.2	11.2	11.5	10.5	9.5	8.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9	839.9
2.5°	820.9	817.5	813.1	808.1	802.0	796.6	794.2	796.2	797.2	794.5	794.2
5°	799.6	791.1	784.4	774.2	766.1	759.3	754.6	752.6	753.2	747.8	746.5
7.5°	775.9	766.8	755.6	744.1	733.3	723.8	718.7	716.4	710.6	708.2	704.5
10°	753.2	739.7	728.9	714.7	701.8	690.0	684.2	679.5	673.7	671.0	665.3
12.5°	729.9	713.7	701.5	686.6	673.4	658.5	653.1	643.3	633.5	627.0	619.2
15°	708.2	689.3	674.7	657.1	641.6	625.3	610.8	594.5	588.5	575.6	568.2
17.5°	682.5	662.9	646.7	624.0	600.6	581.0	564.8	547.8	538.7	529.9	526.2
20°	657.1	639.5	614.5	587.1	560.4	538.0	525.5	515.4	505.2	499.5	495.4
22.5°	633.1	609.4	579.3	549.2	522.5	506.2	496.1	485.6	477.8	472.4	466.6
25°	605.7	576.3	545.5	511.6	493.4	478.1	466.6	458.2	453.1	446.0	443.3
27.5°	579.0	543.4	508.6	485.6	466.6	452.1	441.6	435.5	428.7	424.0	420.3
30°	547.2	511.0	480.5	458.9	439.6	428.1	419.9	412.5	407.4	403.7	401.0
32.5°	515.7	479.5	455.1	431.4	417.2	406.1	397.3	392.2	388.5	383.4	382.0
35°	485.6	453.4	431.1	410.1	394.6	384.4	377.6	371.9	368.5	367.1	366.1
37.5°	456.1	429.4	404.7	387.8	373.2	365.5	356.7	354.0	351.6	348.5	349.9
40°	428.4	403.7	382.4	364.1	352.9	344.1	339.4	336.0	334.0	334.0	334.0
42.5°	404.4	380.3	359.7	343.8	332.6	325.5	320.1	317.4	317.1	316.7	318.8
45°	379.3	357.0	336.0	322.5	313.0	305.6	302.5	300.1	300.1	301.5	301.8
47.5°	354.3	333.3	316.4	300.8	292.0	287.3	284.6	283.2	283.2	284.9	286.3
50°	331.6	311.0	294.4	280.9	272.7	268.3	266.0	265.3	266.0	266.0	268.3
52.5°	306.9	289.0	272.7	261.9	252.4	248.4	247.4	246.3	246.7	248.0	248.7
55°	282.9	266.3	250.7	239.9	233.1	230.4	227.4	227.7	227.1	227.7	227.7
57.5°	258.5	244.0	228.7	220.0	214.2	210.1	206.8	207.8	206.8	206.8	206.4
60°	235.2	218.9	207.4	199.6	192.9	189.5	186.5	187.1	186.1	185.4	184.1
62.5°	209.8	196.9	186.1	178.7	173.6	169.5	166.5	165.5	162.8	160.1	156.7
65°	185.4	174.3	164.5	157.3	152.3	149.2	146.9	144.8	139.8	134.3	131.6
67.5°	161.4	153.3	143.8	137.7	133.7	129.6	125.2	121.5	116.4	113.0	111.3
70°	138.4	130.6	122.8	117.1	112.7	109.0	103.9	101.5	98.1	96.8	95.1
72.5°	116.4	109.3	102.2	97.1	92.4	89.7	86.0	83.6	82.6	82.2	80.5
75°	94.1	88.3	82.9	78.2	74.4	72.4	70.7	69.0	68.4	65.3	63.6
77.5°	72.4	68.4	65.0	61.2	58.9	57.5	53.8	51.4	50.1	48.4	48.1
80°	53.5	50.8	47.4	45.3	41.6	40.3	38.9	38.6	38.2	37.9	37.6
82.5°	36.9	34.2	30.8	29.8	29.4	28.8	28.1	27.7	27.4	27.7	27.7
85°	20.3	18.9	18.9	18.6	18.3	17.9	17.6	17.6	17.3	17.6	17.3
87.5°	8.5	8.1	8.1	7.4	7.8	7.8	7.4	7.4	7.8	7.1	7.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242737

CATALOG NUMBER: S124RDRP-S575D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	839.9	839.9	839.9	839.9
2.5°	792.2	792.8	790.5	789.8
5°	743.8	743.1	741.4	741.7
7.5°	701.8	699.4	701.1	698.4
10°	663.9	660.2	657.1	654.4
12.5°	612.1	609.1	604.7	606.4
15°	563.8	558.7	550.6	551.6
17.5°	520.4	521.1	516.4	517.7
20°	488.3	485.9	486.3	485.2
22.5°	466.0	462.9	459.9	457.5
25°	440.2	438.2	435.2	434.5
27.5°	417.6	417.2	415.9	414.2
30°	398.3	397.6	396.9	395.9
32.5°	381.0	380.7	380.0	380.3
35°	364.8	364.4	363.8	363.4
37.5°	349.6	350.6	349.9	349.9
40°	333.6	334.0	334.7	334.3
42.5°	320.5	320.5	321.5	320.1
45°	304.2	306.2	305.9	305.9
47.5°	287.0	289.3	289.7	289.7
50°	270.0	269.4	270.4	270.0
52.5°	249.4	249.7	249.4	249.1
55°	228.1	228.4	227.7	228.1
57.5°	205.4	204.0	205.1	204.4
60°	180.7	178.0	177.3	176.0
62.5°	153.0	151.3	148.6	150.2
65°	128.9	127.6	126.6	127.9
67.5°	109.6	109.0	109.0	108.3
70°	95.1	94.1	94.1	93.4
72.5°	80.2	79.2	79.5	79.2
75°	61.6	59.9	59.9	60.2
77.5°	48.1	47.7	48.4	47.4
80°	37.6	37.2	36.9	37.9
82.5°	27.1	27.1	27.1	28.4
85°	17.6	16.9	17.6	16.9
87.5°	7.8	7.4	7.1	7.4
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242737
 CATALOG NUMBER: S124RDRP-S575D830-X4F0-XX-UDD-A-W

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	16.09	17.61	16.45	17.92	18.24	17.90	19.43	18.27	19.74	20.05
	3H	17.31	18.68	17.69	19.01	19.37	19.36	20.72	19.74	21.05	21.41
	4H	17.75	19.03	18.15	19.38	19.75	19.87	21.15	20.27	21.50	21.88
	6H	18.02	19.20	18.43	19.57	19.96	20.23	21.41	20.64	21.78	22.17
	8H	18.10	19.22	18.53	19.61	20.02	20.33	21.45	20.75	21.84	22.24
	12H	18.15	19.23	18.58	19.61	20.04	20.39	21.46	20.82	21.85	22.28
4H	2H	17.35	18.63	17.75	18.98	19.35	18.41	19.69	18.81	20.04	20.42
	3H	18.58	19.64	18.99	20.04	20.45	20.15	21.21	20.56	21.61	22.02
	4H	19.05	20.00	19.48	20.42	20.86	20.78	21.74	21.21	22.15	22.59
	6H	19.37	20.20	19.83	20.64	21.10	21.24	22.07	21.69	22.51	22.97
	8H	19.46	20.24	19.93	20.68	21.15	21.37	22.15	21.84	22.59	23.06
	12H	19.53	20.23	20.01	20.70	21.17	21.46	22.16	21.94	22.63	23.10
8H	4H	19.45	20.22	19.91	20.67	21.14	20.89	21.67	21.36	22.11	22.58
	6H	19.83	20.48	20.33	20.97	21.44	21.43	22.07	21.93	22.57	23.04
	8H	19.97	20.54	20.48	21.05	21.54	21.63	22.20	22.14	22.71	23.20
	12H	20.08	20.59	20.59	21.08	21.65	21.77	22.28	22.28	22.77	23.34
12H	4H	19.48	20.18	19.97	20.66	21.13	20.88	21.57	21.36	22.05	22.52
	6H	19.88	20.46	20.40	20.97	21.46	21.42	22.00	21.94	22.51	23.00
	8H	20.06	20.57	20.57	21.06	21.63	21.65	22.16	22.16	22.65	23.22